

Remarks

Reconsideration and reexamination of this application, as amended, are respectfully requested.

Claims 1-19 are pending in this application. Claims 1, 5-7, 10, and 15-17 have been amended. No claims have been cancelled or added.

The Drawings

In the Office Action mailed December 31, 1998, the Examiner objected to the drawings under 37 C.F.R. § 1.83(a) because block 30 was not shown.

Approval has been requested by a separate paper to amend the drawings to replace the originally filed FIG. 3 with the enclosed revised FIG. 3. Revised FIG. 3 includes block 30 and revised blocks 20, 22, 24, 26, and 28. Each of revised blocks 20, 22, 24, 26, and 28 is different than the corresponding blocks 20, 22, 24, 26, and 28 of originally filed FIG. 3.

Revised FIG. 3 corresponds to the specification. Accordingly, it is believed that revised FIG. 3 contains no new matter. As such, it is believed the drawings will be satisfactory upon such approval and subsequent revision.

Claim Rejections Under 35 U.S.C. § 112

The Examiner rejected claims 1-19 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicants regard as the claimed invention. The Examiner noted that claims 1 and 10 state that the system determines the time dependent coverage of the satellite constellation based on the period of rotation of the satellites. The Examiner inquired if this is misleading

because the period of rotation of the satellites is the time it takes for it to rotate around its axis in one revolution. The Examiner then inquired how the period of coverage can be obtained from the period of rotation and whether the Applicants meant the period of orbit and not rotation.

The Applicants have amended the claims to clearly recite that the period is the period of orbit of a satellite. The Applicants apologize for the confusion caused by describing the period as a rotation period. Thus, the Applicants request reconsideration and withdrawal of the rejection to claims 1-19 under 35 U.S.C. § 112, second paragraph.

Claim Rejections Under 35 U.S.C. § 103

The Examiner rejected claims 1-19 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,809,935 issued to Draim in view of U.S. Patent No. 5,415,368 issued to Horstein et al.

The Applicants believe the claimed invention is patentable over either of the cited references and have amended independent claims 1 and 10 to more clearly define thereover.

The claimed invention provides a method and system for maximizing satellite constellation coverage at predetermined local times for a set of predetermined geographic locations. The satellite constellation coverage includes a first coverage and at least two desired satellites. Each of the desired satellites has a trajectory associated therewith and a relative configuration within the satellite constellation. A period of orbit for each of the desired satellites is determined. A time dependent coverage of the satellite constellation is then determined based on the orbit period and the trajectory of each of the desired satellites.

The trajectory of at least one of the desired satellites is then tilted to reorient the satellite constellation without changing the relative configuration of the desired satellites within the satellite constellation to obtain a second coverage based on the time dependent coverage.

The second coverage provides maximum coverage at the predetermined local times for the set of predetermined geographical locations. Command signals for modifying the trajectory of the at least one desired satellite are then generated based on the tilted trajectory.

Neither Draim nor Horstein teach or suggest tilting the trajectory of a satellite to generate coverage that depends on a certain time interval. In contrast, both Draim and Horstein teach systems for continuous global coverage.

In view of the foregoing amendments and remarks, it is believed that independent claims 1 and 10, as amended, overcome the rejections under 35 U.S.C. § 103(a). Claims 2-9 and 11-19 depend from claims 1 and 10, respectively, and contain all the limitations thereof. Thus, the Applicants request reconsideration and withdrawal of the rejection to claims 1-19 under 35 U.S.C. § 103(a).


Conclusion

The Applicants have made a genuine effort to respond to each of the Examiner's objections and rejections in advancing the prosecution of this case. The Applicants believe that all formal and substantive requirements have been met and that this case is in condition for allowance, which action is respectfully requested.

If a telephone or video conference would expedite allowance or resolve any further questions, such a conference is invited at the convenience of the Examiner.

Respectfully submitted,

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